

II. AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

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Please replace the paragraph beginning at page 9, line 24 and which starts with "Structurally, the wavelength converting switch 724" with the following amended paragraph:

A-1
Structurally, the wavelength converting switch 724 provides optical components for separating any WDM signals present on the optical fibers 750, 760 into their individual wavelength channels, as well as electrically electrical circuitry for electrically switching these channels. Some of the switched wavelength channels are provided to the photonic switching core 722 along the plurality of optical fibers 730. Other switched wavelength channels are provided as "drop" signals to an external destination via a plurality of optical fibers 770.

Please replace the paragraph beginning at page 21, line 19 and which starts with "Property (1) can be viewed as a mapping" with the following amended paragraph:

A-2
Property (1) can be viewed as a mapping of the overhead bits to the wrapper bits using an expansion factor of "N". In Fig. 2, N is equal to eight, but N can generally have any desired value. In fact, depending on the value of "N" and on the bit rates of the payload bit stream and the overhead bit stream, there will result a particular overall bit rate increase when moving from the bit rate of the payload bit stream to the bit rate of the composite (payload + wrapper) signal. Specifically, the per cent increase in the bit rate of the composite signal (denoted "INCREASE") is related to the expansion factor "N", to the bit rate of the payload bit stream (denoted "BW_P") and to the bit rate of the overhead bit stream (denoted "BW_O") in the following manner:

$$\text{INCREASE} = 100 \times (BW_P + (N \times BW_O)) / BW_P - 100$$

Please replace the paragraph beginning at page 22, line 12 and which starts with "While any integer value of the expansion factor" with the following amended paragraph:

A-3
While any integer value of the expansion factor which is greater than unity is within the scope of the present invention, it may be desirable to choose a value

A3
of "N" which keeps the overall bit rate increase to within a certain percentage. This is because increases in the bit rate of the composite signal have the effect of reducing the system ~~[[each]]~~ reach (although very slight increases can be compensated for by forward error correction). It is expected that an overall bit rate increase of 5% or less would be acceptable, although it is within the scope to provide an even greater bit rate increase.

Please replace the paragraph beginning at page 26, line 30 and which starts with "With reference to Fig. 3B" with the following amended paragraph:

A4
With reference to Fig. 3B, there is depicted another pair of wrapper symbols for a logic "zero" and for a logic "one". The expansion factor is again 8, which means that each wrapper symbol corresponds to 8 wrapper bits. Here, the logic "zero" symbol is mostly at V_L but has a rising edge at the end of the symbol. The average signal level of the logic "zero" symbol, denoted $V_{AVG,0}$, lies at $V_L + 1/8 \times (V_H - V_L)$. The logic "one" symbol is complementary to the logic "zero" symbol; it lies mostly at V_H and has a ~~rising-falling~~ edge at symbol's end. Thus, it is seen that each of the two wrapper symbols has only a single signal level transition, as opposed to the symbols in Fig. 3A which had two transitions each, one from a "zero" to a "one" and another from a "one" to a "zero".

Please replace the paragraph beginning at page 33, line 28 and which starts with "The WDM input signals are intercepted" with the following amended paragraph:

A5
The WDM input signals are intercepted by a respective set of optical tap couplers ~~[[780]]~~ 580, which can be identical to the tap couplers 780 previously described with reference to Fig. 7. Each of the tap couplers ~~[[780]]~~ 580 diverts a portion of the respective WDM input signal to a common front end 590. Similarly, the WDM output signals are intercepted by a respective set of optical tap couplers ~~[[785]]~~ 585, each of which diverts a portion of the respective WDM output signal to the common front end 590.

Please replace the paragraph beginning at page 34, line 15 and which starts with "Each of the wavelength channels output" with the following amended paragraph:

A6
Each of the wavelength channels output by the front end ~~[[790]]~~ 590 passes through a respective overhead bit stream extraction system 400 in a bank of such systems 500. Each overhead bit stream extraction system can consist of a receiver, detector and expander as previously described. The overhead bit stream extraction systems 400 produce respective ones of a plurality of overhead bit streams which are provided to a processing module 596.